Patent Application for

SYSTEM AND METHOD FOR PURCHASING MANAGEMENT UTILIZING DYNAMIC PAYMENT CARDS AND DYNAMIC APPROVAL PARAMETERS

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Related Applications

The present application is a continuation-in-part application of the following co-pending application: Application SN 09/409,316 that is entitled "Method and System for Online Business Purchasing," which was filed on September 28, 1999. The present application also claims priority on co-pending United States provisional patent application SN 60/242,493 filed on October 23, 2000, the entire text and all contents of which is hereby expressly incorporated by reference in its entirety.

Technical Field of the Invention

This invention relates to purchasing management systems for product and service procurement and related purchase mechanisms.

Background

Most companies have a wide variety of purchasing needs. Two general categories help define these purchasing needs -- direct spending and indirect spending. Direct spending refers to direct company expenditures, such as expenditures for raw materials or components that are needed for the production of goods. Direct expenditures often occur through direct vendor supply

and payment agreements. Indirect spending refers to non-direct company expenditures, such as travel and entertainment expenditures, industrial supplies, computer systems, office supplies and other indirect expenditures. Indirect spending is typically very difficult for companies to manage and control efficiently. For example, indirect spending that occurs as individual expense purchases, such as travel and entertainment spending, is often handled through reimbursement procedures, where employees must first pay for the expenditure and then seek reimbursement. Reimbursement procedures, however, are typically inefficient and are often undesirable to employees who must make the expenditure and then hope that they are doing so within approved guidelines so that they will get reimbursed. Indirect spending purchases made by professional purchasers (e.g., purchases by office managers, information technology (IT) staff, etc.) are often made with net 30 day terms. These indirect purchases are often be handled through manual purchase request and check authorization procedures; however, these procedures are typically even more inefficient than reimbursement procedures.

Because of inefficient procedures typically utilized, purchasing management often generates significant costs for most companies. This purchasing management is made even more difficult and complex due to a wide variety of markets from which most companies purchase products and services. These markets include, for example, network enabled markets, such as purchases through Internet web sites, as well as other more traditional markets. Regardless of the product or service being purchased or the market from where the product and service is being purchased, it is desirable for companies to have the ability to manage the purchasing of those products and services.

With respect to how companies make purchases, banks and financial institutions offer a variety of payment mechanisms, such as credit cards cards, stored value cards and smart cards. These offerings, however, are all of limited usefulness as a tool for purchasing management. Credit and debit cards can be set up as company cards, where the company or its accounts are responsible for purchases, or as individual cards, where the employee or the employee's accounts are responsible for purchases. Companies are typically very reluctant to issue company credit or debit cards, thereby giving employees the ability to create company debt or expend company funds without pre-approval. If employee accounts are used, the transaction is simply a reimbursement transaction.

Stored value cards are essentially pre-paid credit cards with pre-determined spending or credit limits. These stored value cards have been marketed to consumer markets, for example, as a mechanism to allow parents to control the spending of their children while providing the ease of credit card purchases. Smart cards are cards that include integrated circuits. The increased memory and processing power of smart cards have been advertised as potentially allowing banks and financial institutions to provide increased utility, functionality and convenience to users. One big downside to smart cards, however, is that smart cards will require a new infrastructure to be adopted and put in place by merchants before any newly developed features may be utilized.

Purchasing card programs are payment mechanisms offered by banks and financial institutions that are more specifically directed to help company payment needs. Purchasing cards are essentially company credit cards with a few additional control features that allow companies to pre-approve cards using a few static limitations, such as pre-approved vendors, pre-approved

transaction amount limits, and pre-approved overall credit limits. Once set up, these purchasing cards essentially act as credit cards with pre-determined static limitations. Thus, although purchasing cards allow more control than do typical credit cards, the company still has no control over specific purchases initiated by employees because the card limitations are static and spending requirements have all been pre-approved for a given card. In short, purchases may be completed without ever being reviewed or approved in light of company purchasing policies. Purchasing cards, therefore, fall short of providing a desirable purchasing management solution.

Summary of the Invention

The present invention provides systems and methods for efficiently managing company purchases through the use of dynamic payment identifiers that allow purchases to be processed in view of dynamic approval parameters that are linked to the purchase request for which a specific transaction is being initiated. More particularly, dynamic payment cards are utilized as dynamic payment identifiers that are provided to company employees, and dynamic approval parameters are linked to employee purchase requests that are processed through a purchasing management system, which is preferably server-based. The systems and methods of the present invention further allow for the efficient purchasing management of products and services purchased from any desired market, including both network enabled markets and non-network enabled markets. In addition, purchasing management controls are provided that allow purchasing managers to control a wide range of purchasing needs through automatic and manual approval mechanisms.

In one embodiment, the present invention is a method for purchasing management utilizing dynamic payment identifiers, such as dynamic payment cards, to provide control over

purchases, including determining a plurality of sets of approval parameters associated with a plurality of purchase requests from requestors and associating each set of approval parameters with a dynamic payment identifier so that a purchase initiated with the dynamic payment identifier may be correlated and approved with respect to the appropriate set of approval parameters. In more detailed respects, the method may include providing access through a network to a plurality of customizable purchasing management rules residing on one or more server systems, receiving through the network a purchase request from a requestor, applying the purchasing management rules to the purchase request, notifying a purchasing manager of the purchase request, and allowing for the purchasing manager to identify the one or more approval parameters for an approved purchase request.

In another embodiment, the present invention is a purchasing management system utilizing dynamic payment identifiers, such as dynamic payment cards, to provide control over purchases of a customer entity, including one or more server systems configured to receive a plurality of sets of approval parameters associated with a plurality of purchase requests from a plurality of requestors associated with a customer entity, and a plurality of dynamic payment cards provided to the plurality of requestors. Each set of approval parameters is associated with at least one dynamic payment card, so that the dynamic payment cards allow a user to purchase a product or service if the appropriate set of approval parameters are met.

In still another embodiment, the present invention is a method for providing server-based purchasing management services to customer entities through a network, including providing access through a network to a plurality of customizable purchasing management rules residing on

one or more server systems where the purchasing management rules provide approval requirements for purchases requested by requestors associated with a customer entity, receiving through the network a purchase request from a requestor, applying the purchasing management rules to the purchase request, notifying a purchasing manager of the purchase request if the purchasing management rules require action by the purchasing manager for the purchase request to be approved, and allowing for the purchasing manager to take approval action through a network accessible approval mechanism. In more detailed respects, the purchase request receiving step includes receiving a purchase request from a network enabled market, thereby allowing the requestor to identify and select for purchase products or services through the network. Still further, the purchase request receiving step may include receiving a purchase request from a market that is not network enabled. The method may further include the step of allowing the purchasing manager to determine one or more approval parameters associated with an approval of the purchase request and the step of associating the one or more approval parameters with a dynamic payment identifier, such as a dynamic payment card, to be utilized for purchase of the product or service identified in the purchase request.

In yet another embodiment, the present invention is a network accessible purchasing management system, including one or more server systems accessible through a network that are configured to provide access to a plurality of customizable purchasing management rules residing on the server systems, a purchase request subsystem within the server systems configured to receive a purchase request through the network, an approval processing subsystem within the server systems configured to apply the purchasing management rules to the purchase request and to allow a purchasing manager to take approval action, if the purchasing management

rules require action by the purchasing manager for the purchase request to be approved. In more detailed respects, the system includes a dynamic payment processing subsystem within the server systems configured to associate sets of approval parameters with dynamic payment identifiers, such as dynamic payment cards, to be utilized for purchase of the product or service identified in purchase requests.

Still further, the present invention is a method for purchasing management utilizing dynamic payment identifiers and dynamic approval parameters, including receiving a plurality of purchase requests from requestors within an entity, evaluating the plurality of purchase requests with respect to the entity's purchase policies, generating a plurality of sets of approval parameters with each set of approval parameters being associated with an approved purchase request, and associating each set of approval parameters with a dynamic payment identifier so that purchases using the dynamic payment identifier may be correlated to an appropriate set of approval parameters. In addition, the method may include providing access through a network to a plurality of customizable purchasing management rules residing on one or more server systems, receiving through the network the plurality of purchase requests and applying the purchasing management rules to the purchase requests to help generate the approval parameters for approved purchase requests. Also, the method may include notifying an approver of a purchase request, if some action is required from the approver for the purchase request to be approved, and allowing the approver to take the required action through a network accessible approval mechanism. Still further, the method may include allowing the approver to identify, at least in part, the approval parameters for the approved purchase request. In more detailed respects, the purchase requests may be requests for purchases of products or services from network enabled markets or from

non-network enabled markets. In addition, the dynamic payment identifiers comprise dynamic payment cards, and the dynamic payment identifiers may be utilized as requestor specific identifiers. Also, the purchase requests may include an indication of the dynamic payment identifier of the requestor.

In a further embodiment, the present invention is a method for providing server-based purchasing management services to customer entities through a network, including providing access through a network to a plurality of customizable purchasing management rules residing on one or more server systems where the purchasing management rules provide approval requirements for purchases requested by requestors associated with a customer entity, receiving through the network a purchase request from a requestor, applying the purchasing management rules to the purchase request, notifying an approver of the purchase request if the purchasing management rules require action by the approver for the purchase request to be approved, and allowing for the approver to take approval action through a network accessible approval mechanism. The method may further include associating a dynamic payment identifier with an approved purchase request, as well as, generating a set of approval parameters for the approved purchase request and associating the set of approval parameters with the dynamic payment identifier. Still further, the method may include correlating a purchase made using the dynamic payment identifier with the purchase request and approving the purchase if the purchase is within the approval parameters. In more detailed respects, the approval parameters may include an identity of a vendor for a requested product or service and a maximum cost amount for the product or service. In addition, the dynamic payment identifier may be a dynamic payment card, and the method may further include providing a plurality of dynamic payment cards to a plurality

of requestors within an entity so that each request may utilize the dynamic payment card in making purchase requests and in executing approved purchase requests.

In further respects, the method may include receiving a purchase request from a network enabled market with the network enabled market allowing the requestor to identify and select for purchase products or services through the network. Still further, the method may include allowing the approver to determine one or more approval parameters associated with an approved purchase request from the network enabled market, assigning a dynamic payment identifier to the purchase request, and associating the one or more approval parameters with the dynamic payment identifier. The receiving step may also include receiving a purchase request from a market that is not network enabled with the purchase request identifying one or more details concerning a need that the purchase request will address. The method may also include allowing the approver to determine one or more approval parameters associated with an approved purchase request from the non-network enabled market, assigning a dynamic payment identifier to the purchase request, and associating the one or more approval parameters with the dynamic payment identifier.

In another embodiment, the present invention is a purchasing management system utilizing dynamic payment identifiers to provide control over purchases of a customer entity including one or more systems configured to receive a plurality of purchase requests from a plurality of requestors within an entity and to generate a plurality of sets of approval parameters associated with the plurality of purchase requests, and a plurality of dynamic payment identifiers, where at least one dynamic payment identifier is associated with each set of approval parameters,

and where the dynamic payment identifiers allow purchases made using a dynamic payment identifier to be correlated with an appropriate set of approval parameters. In more detailed respects, the server systems may include one or more server systems configured to receive through a network the plurality of sets of approval requirements. In addition, the server systems may be further configured to provide access through the network to a plurality of customizable purchasing management rules residing the server systems and to apply the purchasing management rules to the purchase requests. Still further, the purchasing management system may include one or more systems configured to store the plurality of sets of approval parameters and the associated dynamic payment identifiers, to receive details of a purchase made using a dynamic payment identifier, to evaluate the purchase against an appropriate set of approval parameters for the purchase request associated with the purchase, and to approve the purchase if the purchase falls within the approval parameters. In addition, the dynamic payment identifiers may include dynamic payment cards, and the purchase requests may include requests for purchase of products or services from network enabled markets or from non-network enabled markets.

In yet another embodiment, the present invention is a network accessible purchasing management system, including one or more server systems accessible through a network that are configured to provide access to a plurality of customizable purchasing management rules residing on the server systems, a purchase request subsystem within the server systems configured to receive purchase requests through the network, and an approval processing subsystem within the server systems configured to apply the purchasing management rules to the purchase requests and to allow an approver to take approval action, if the purchasing

management rules require action by the approver for a purchase request to be approved. In addition, the network accessible purchasing management system may include a dynamic payment processing subsystem within the server systems configured to associate a set of approval parameters for each purchase request with a dynamic payment identifier to be utilized for purchase of the product or service identified in purchase request. Still further, the system may include one or more systems configured to store a plurality of sets of approval parameters and associated dynamic payment identifiers, to receive details of a purchase made using a dynamic payment identifier, to evaluate the purchase against an appropriate set of approval parameters for the purchase request associated with the purchase, and to approve the purchase if the purchase falls within the approval parameters. In more detailed respects, the dynamic payment identifiers may include dynamic payment cards, and the approval parameters may include an identity of a vendor for a requested product or service and a maximum cost amount for the product or service.

Description of the Drawings

It is noted that the appended drawings illustrate only exemplary embodiments of the invention and are, therefore, not to be considered limiting of its scope, for the invention may admit to other equally effective embodiments.

FIG. 1 is a block diagram for a purchasing management environment utilizing dynamic payment cards, according to the present invention.

FIG. 2 is a flow diagram for purchase request processing that utilizes dynamic payment identifiers and approval parameters, according to the present invention.

FIG. 3 is a block diagram representing various potential sources for purchase requests within a purchasing management environment, according to the present invention

FIG.4 is a block diagram for purchase request processing including alternative transaction paths, according to the present invention.

Detailed Description of the Invention

The present invention provides systems and methods for controlling and facilitating the management of product and service purchasing through dynamic payment approval mechanisms that are linked to individual transactions. The present invention accomplishes these advantageous processing goals, at least in part, by utilizing dynamic payment identifiers, such as dynamic payment cards, that provide a mechanism for identifying users so that dynamic approval parameters associated with any given purchase request from that user may be linked to purchases being attempted by these users. Dynamic approval parameters for any particular purchase request are produced after applying the company purchase policies to those purchase requests within a purchasing management system. By utilizing dynamic approval parameters linked to specific purchase requests, as opposed to general static approval limitations available with existing purchasing cards, the systems and methods of the present invention allow for the efficient management and control of company purchases, regardless of where the purchase is made,

without sacrificing the safety of having purchase requests reviewed under standard company purchase policies.

As indicated above, traditional purchasing card programs implement a set of static rules against which all transactions are evaluated. Using these static rules, transactions utilizing purchasing cards are typically evaluated and checked for suppliers that are within a company's static preset list or for static financial parameters that have been preset for that particular card. Purchasing cards have the significant disadvantage of not supporting traditionally desired purchasing process of having requests reviewed and approved before purchases occur. Purchasing cards require controllers to pre-approve categories of spend and budgets that cardholders are then free to transact against for any desired purchase. Because companies are typically responsible for payment rather then the individual cardholders, companies have no leverage to help ensure proper use of purchasing cards.

Traditional stored value cards, which hold a set amount of credit at any given time, are used either as cash equivalents for that amount of credit or for use at one or more static merchants that are defined when the card program is initiated. Generally stored value cards are used as bulk credit instruments, meaning that the credit available on a stored value card may be used in multiple transactions until it is depleted. Some stored value cards, such as those offered by Wildcard Systems, Inc., allow multiple merchants to be configured at program inception, similar to the static purchasing card configuration. Stored value cards, however, as with purchasing cards, fail to provide adequate safeguards and control for efficient purchasing management.

In contrast to traditional card programs, the dynamic payment card of the present invention reflects a dynamic, transaction-based pre-approval system for each transaction. Under the present invention, each transaction using the dynamic payment card may be dynamically pre-validated by a set of approval parameters, such as merchant, transaction amount, timeframe or any other desired parameter. As disclosed herein, the dynamic payment card and approval parameters of the present invention allow for control and management of product and service purchasing regardless of the product or service being purchased. Thus, in addition to allowing efficient purchasing management pre-selected network-accessible products and services, the purchasing management system of the present invention allows for purchasing management of any given purchasing need.

In addition, the processing mechanism for the dynamic payment card may utilize existing credit card networks, for example, the VisaNet credit card processing network. Upon approval of a purchase request, the server systems operating the purchasing management system will initiate a transaction through an agent of a credit card network. That transaction will authorize the approved expenditure for a specific dynamic payment card. Once the credit card network sees a customer transaction against that dynamic payment card, the purchasing management system will be notified by the agent of the credit card network that the transaction has occurred. The purchasing management system may then record the transaction details for subsequent reconciliation with the customer or user's accounting system. If, for some reason, the holder or user of the dynamic payment card does not execute the purchase transaction within specified parameters set by the customer (e.g., time, purchase price, etc.), the purchasing management

system may use the same credit card network agent to rescind the transactional authorization for that particular dynamic payment card.

By utilizing the dynamic payment card platform, the current invention advantageously provides active control that is not available with traditional credit cards or other purchase cards. In other words, the dynamic payment card purchasing of the present invention enables small, midsize and large companies to utilize a bank card as a primary mechanism for managing spending and procurement in business operations, while still maintaining active control over those purchases. The static approval mode of traditional purchasing cards simply does not support the standard purchase approval process in most businesses, where managers review requests and then approve these specific requests for purchase. Many companies are not willing to use such traditional purchasing cards for the majority of their expenditures due to the lack of control over the actual purchasing execution. Such companies, therefore, limit the use of purchase cards or avoid them altogether. Thus, significant amounts of operational expenditures (technology, industrial supplies, office supplies, etc, which are often fall within 15-25% of a company's revenue) are processed through other mechanisms, such as reimbursement or check request procedures.

As described herein, the dynamic payment card platform of the current invention resolves this situation by providing significant management and approval capabilities that exceed those available with traditional purchasing card programs. Advantageously, with the present invention, review of purchase requests may occur before purchase execution, enabling the dynamic payment card to actively support standard company purchasing processes. Pre-approval

processing then allows for robust exception handling procedures and enables the use of purchase requests that trigger rules for desired approval routing. And, once approved, approval requirements for a particular purchase request may be tied or associated with a particular dynamic payment card so that card transactions may be processed within a credit card processing network, while still allowing for approval and policy control by the business.

The systems and methods of the present invention will now be described in further detail with respect to FIGS. 1-4. More specifically, FIG. 1 provides an example of a purchasing management environment with clients linked to the purchasing management system through a network and with card transaction processing occurring within a dynamic payment card processing system. FIG. 2 provides an example process flow diagram for use of a dynamic payment identifier from purchase request generation to transaction execution. FIG. 3 provides example markets and sources from which purchase requests may be come for injection into the purchasing management system. And FIG. 4 provides a flow diagram including purchases made both utilizing and not utilizing the dynamic payment capabilities of the present invention.

Referring now to FIG. 1, block diagram is depicted for a purchasing management environment 150 utilizing a dynamic payment card system 130 to facilitate purchasing management, according to the present invention. As depicted, the purchasing management environment 150 includes purchasing management system 100, dynamic payment card processing system 130, vendor systems 140, and clients 104A, 104B ... 104C. The clients 104A, 104B ... 104C and the purchasing management system 100 may communicate with each other through network 102, which may be, for example, the Internet. Clients 104A, 104B ... 104C and

the purchasing management system 100 may be connected to the network 102 through connections 112A, 112B ... 112C and 114, respectively. These connections may be any of a variety of mechanisms for connecting computer systems to networks, including wireless connections, network hubs, routers, Internet service providers (ISPs), portal computers, or any other device or system providing connectivity, as would be understood by one of skill in the art. The network 102 is represented by a cloud shape to indicate that network 102 may be any network medium ultimately allowing communication between clients

The clients 104A, 104B ... 104C represent companies or entities that are utilizing the purchasing management system 100. Within these companies or entities, there will have any of a variety of devices and systems that may be utilized, for example, personal computers, servers, handheld computer devices, portable computers, personal digital assistants or any other device or system that is desired to be utilized. It is noted that although FIG. 1 depicts a purchasing management system 100 that is a server-based network-accessible system, the dynamic approval parameters and payment card of the present invention may be utilized with client-based systems, server-based systems, or a combination of both. It is further noted that the purchasing management system 100 represents any desired grouping of devices and systems that work together to provide the desired purchasing management functionality.

As shown in FIG. 1, each client includes a plurality of users. For example, client 104A includes users 106A, 106B ... 106C. Client 104B includes users 108A, 108B ... 108C. and client 104C includes users 110A, 110B ... 110C. These users represent the various employees

that utilize the purchasing management system 100, including requesters who request purchases, approvers who approve requests, and managers who manage the purchase policies and rules.

According to the present invention, each user may have an individual dynamic payment card. Preferably, the dynamic payment card are similar to traditional magnetic-strip credit cards and purchasing cards, which have unique numbers associated with them. These unique numbers provide a mechanism for allowing transactions initiated with the card may be identified. It is noted, however, that other dynamic payment identifiers may be utilized other than magnetic-strip cards with unique number identifiers. For example, unique numbers may be utilized, such as social security numbers. These unique numbers would then simply be transmitted along with the transaction information. Furthermore, biological identifiers could be utilized, such as fingerprints. In short, because current infrastructure is in place to process magnetic-strip credit card type mechanisms, these type mechanisms are currently preferred. However, according to the present invention, any dynamic payment identifier may be utilized that will allow purchase requests and associated approval parameters to be correlated with initiated transactions.

The purchasing management system 100 includes purchase request block 116, approval processing block 118, dynamic purchase processing block 120, and transaction reconciliation and reporting block 122. The purchase request block 116 represents subsystems within the purchasing management system 100 that allow for the generation of purchase requests by users 106A, 106B ... 106C, 108A, 108B ... 108C, and users 110A, 110B ... 110C within clients 104A, 104B ... 104C. Approval processing block 118 represents subsystems that allow for the processing of purchase request utilizing policies and rules that may be configured, selected or

otherwise put in place by the clients 104A, 104B ... 104C. The dynamic purchase processing block 120 represents subsystems that handle purchase requests utilizing dynamic payment cards. This block communicates with the dynamic payment card processing system 130 and provides purchase order information to the transaction reconciliation and reporting block 122. This block 122 represents subsystems that reconcile approved purchase requests with processed transaction information received from the dynamic payment card processing system 130 and then report transactions to clients 104A, 104B ... 104C. This reporting may take any of a variety of forms and may be configured differently for different clients depending upon how those clients desire transactions to be reported.

The dynamic payment card processing system 130 includes approval parameters database block 132 and transaction processing block 134. The approval parameters database block 132 represents subsystems that store approval parameters that are sent from the dynamic purchase processing block 120. These approval parameters are stored with respect to each specific purchase request and are, therefore, dynamic with respect to initiated transactions. Thus, when a user initiates a transaction, vendor systems 140 communicate with the transaction processing block 134. If the transaction falls within the approval parameters, the transaction processing block 134 approves the transactions and notifies the vendor systems 140 of this approval. If the transaction does falls outside of the approval parameters, the transaction processing block 134 rejects the transaction and notifies the vendor systems 140 of this rejection. The transaction block 134 then sends transaction details to the transaction reconciliation and reporting block 122. It is noted that the dynamic payment card processing system may be similar to existing credit card transaction systems, such as the VisaNet credit card processing network, which include the

ability dynamically store a set of approval parameters per approved purchase requests. As indicated above, traditional purchasing card processing only stores a single, static set of limitations for any given purchasing card.

The purchasing management system 100 of the present invention is preferably a network-accessible, server-based system that eliminates the requirement for companies to expend and allocate significant internal resources to client-based system management. An example of a server-based purchasing or procurement management system is described in co-pending U.S. Patent Application SN 09/409,316, entitled "Method and System for Online Business Purchasing," which is hereby incorporated by reference in its entirety. In particular, embodiments disclosed in this co-pending application utilize network accessible catalogs and various configurable product listings to provide a network accessible marketplace and to allow for network-based product selection. These embodiments, therefore, focus primarily upon purchasing management for purchases from defined or catalogued marketplaces in which particular pre-identified products were offered or catalogued. For managing purchases, this co-pending application discloses a variety of customizable purchasing requirements, policies and rules to allow users and/or purchasing mangers a wide variety of network accessible and configurable controls for managing purchases. These customizable management features include automatic purchase approval, manual purchase approval through approval queues, automatic order placing after purchase approval, and post-purchase management features.

FIG. 2 is a flow diagram for purchase request processing 200 that utilizes dynamic payment identifiers and approval parameters, according to the present invention. Initially, in

block 202, users may be provided or assigned dynamic payment identifiers. As indicated above, magnetic-strip cards with unique numbers can be utilized to provide a dynamic payment identifier. Advantageously, dynamic payment cards according to the present invention may be used within existing credit card processing infrastructures. Moving to block 204, a user may then begin the process by generating a purchase request using a dynamic payment identifier. This purchase request will identify purchase information, such as vendor, product or service to be purchased, quantity, pricing, justification, or any other desired information. It is noted that instead of utilizing the dynamic payment identifier in block 204, the dynamic payment identifier may associated with a purchase request at some other point in the process, as desired, for example, in block 208 where a purchase request has already been approved.

In block 206, this purchase request is reviewed according to company policies and rules that are in place. This processing may include, for example, configurable purchase policies that allow companies to identify and establish various purchase policies that automatically determine what is required for approval of various purchase requests. For example, such purchase policies may include the ability to determine what purchases may be automatically approved, as well as an indication of what purchases require manual approval before being ordered and shipped. In addition, the degree of manual approval may be selected, as desired, from simply approval of an amount to be spent to ever increasing details concerning the vendor or other details of the purchase.

Purchase request processing may also utilize approval queues. Once items are sent to the approval queues, a notification is sent to a given person who must take a given action, for

example, approve the purchase selection, reject the purchase selection, or place the selection in an "on hold" status. When an approver elects to review the approval queue, a detailed view of the item to be reviewed may be provided to the approver. If a set of items are listed in the approval queue, the approver may perform a line item veto or approval on particular items. It is noted that depending upon the rules in place, one or more approvers may be notified to review the request before approval. It is further noted that a given purchase request may be separated into multiple requests due to policy rules, so that automatically approved requests are immediately processed, while others are delayed pending approval, if manual approval is required. In addition, items within each request may be logically split and managed within the server according to vendor or any other desired feature of the request.

In addition, in one embodiment of the present invention, managers may use conventional Internet browsers to navigate to a web site associated with the purchasing management system 100. Once an account is set up, the manager can perform a variety of management functions, including creating departments and users and defining budget limits. Users can be defined as requesters or approvers or any other desired designation. The manager may then define detailed options for purchase approval including rules that determine when given purchases require manual approval. Advantageously, this network-accessible management system may be implemented with traditional network browsers without requiring special client-side software.

Example management features for purchasing management systems are described in more detail in U.S. Patent Application SN 09/409,316, entitled "Method and System for Online

Business Purchasing," which is, as indicated above, hereby incorporated in the specification by reference in its entirety.

Looking back now to FIG. 2, in block 206, the purchase request is ultimately rejected or approved. If the request is rejected, flow passes to block 230. As block 230 indicates, a new or modified purchase request is required for a user to continue with obtaining approval to complete the desired transaction.

If the purchase request is approved, flow passes to block 208, where a purchase order is generated. This purchase order represents the details of the requested transaction. As a result of the purchase request processing, and as represented in block 208, approval parameters are also generated and associated with the purchase request and purchase order. These approval parameters may include any of a variety of details, including the time within which the transaction must be completed, approved vendors, approved transaction amounts, or any other desired transaction limitation or requirement. Thus, once approved, each purchase request has associated with it a set of dynamic approval parameters, a purchase order, and a dynamic payment identifier. This information is provided to block 220 for further processing and reconciliation.

In block 210, the dynamic approval parameters are provided to the dynamic payment processing system that will process the transaction, along with the associated dynamic payment identifier and any other desired information. These approval parameters, which represent approval requirements for a given purchase order, are then dynamically stored with respect to

the dynamic payment identifier used for the purchase request in block 204. In block 212, the user initiates a transaction utilizing the dynamic payment identifier, which may be, for example, a dynamic payment card. In block 214, the transaction details are correlated to the dynamic approval parameters stored for that dynamic payment identifier. It is noted that each dynamic payment identifier may have a plurality of different sets of approval parameters, one set being associated with each approved transaction and related purchase order. Thus, the correlation that occurs in block 214 is to identify which set of approval parameters should be used for the initiated transaction. For example, vendor information may first be utilized to limit the initiated transaction to a reduced number of the sets of approval requirements. From there, transaction amount or product/service types may be utilized to further determine which set of approval requirements to utilize. Alternatively, another identifying number or other identifier could be stored and utilized to directly relate initiated transactions with approved purchase orders.

In block 216, the transaction is reviewed or processed by the dynamic payment processing system to determine if the transaction falls within the approval parameters. If the transaction falls outside of these parameters, flow passes to block 224 where the transaction is rejected. From there, decision block 226 provides a mechanism to determine if additional transaction attempts are to be allowed. For example, if an transaction amount parameter were exceeded, a "yes" could be determined, and flow could then pass back to block 212 where the user could try to initiate an appropriate transaction. As a further example, if a time limit parameter could have been exceeded, a "no" could be determined, and flow could then pass back to block 230 wherein a new purchase request would be required.

Looking back to block 216, if the transaction does fall within the approval parameters, flow passes to block 218 where the transaction is completed. The transaction details are provided back to the purchasing management system, and in block 220, the transaction is reconciled with the purchase order and other information provided previously from block 208. Once transactions are reconciled, accounting details may be reported to clients, as indicated by block 222. It is noted that multiple purchase requests from multiple users may be simultaneously processed through the purchase request processing flow 200, so that the reporting in block 222 can include, for example, a monthly statement of all client transaction that have utilized the dynamic payment identifier.

FIG. 3 is a block diagram representing various potential sources for purchase request forms 320 that are injected as purchase requests into the purchasing management environment 100, according to the present invention. It is noted that the source of the purchase request form or the market from which the product or service will be ultimately purchased is not significant to the current invention. The present invention allows for efficient management and control of all purchases so long as a purchase request for a desired purchase is injected in some manner into the purchasing management system 100 so that it may be processed according to company purchasing policies and rules.

Referring now to FIG. 3, request form generation or origination environment 300 includes a wide variety of sources form which purchase request forms 320 may be generated or originated. Once a purchase request form is generated or originated in block 320, this purchase request may be injected into the purchasing management system 100 for processing. To provide

for broad purchasing coverage, the environment 300 contemplates purchase requests originating from any source, including Internet enabled markets and other markets. Significantly, according to the present invention, once the purchase request has been generated, the purchase may be managed, regardless of the source of the purchase request.

In the embodiment depicted, Internet enabled or network accessible markets 315 may generate purchase request forms for the purchasing management system 100 through a software link, such as merchant APIs (Application Program Interface commands) 318. Examples of such network enabled markets 315 include electronic marketplaces 310, such as catalogued marketplaces that provide network accessible products and services that may have been identified and listed for purchase by a user. These catalogued marketplaces may include general marketplaces with one or more individual lists or groupings of products and services and may include branded marketplaces with one or more vendor-specific lists or groupings of products and services offered under a particle vendor brand. Catalogued marketplaces are discussed, for example, in co-pending U.S. Patent Application SN 09/409,316, entitled "Method and System for Online Business Purchasing."

In addition, Internet merchants 312 provide network accessible or Internet enabled markets that may be linked to the purchasing management system 100 of the present invention through merchant APIs 318. Still further, traditional non-Internet enabled merchants 314 may be linked through additional software and APIs. Such non-Internet enabled merchants may also be linked through the use of hosted catalogs 316 that may be made available to Internet users. In short, Internet enabled markets, which allow for access through the Internet, may be linked to the

purchasing management system 100 through merchant APIs 318 or any other desired connection mechanism.

In addition to generation of purchase requests through these Internet enabled markets 315, purchase requests may be generated from other sources or markets 305, including through a web interface 308. Examples of other markets 305 are open requests 302, which include user generated purchase requests. These requests take no pre-defined form and may be generated by the user through the web interface 308. In addition, user-customized catalogs 304 may be utilized to generate purchase requests through the web interface 308. Also, vendors or suppliers may provide a supplier interface 306 through which purchase request forms may be provided for its customers, so that the user may simply use a supplier interface to generate a purchase request form for block 320. It is noted that the open request block 302, the custom catalogs block 304 and the supplier interface block 306 represent only examples of other sources for purchase requests and should not be taken as being an exclusive group. It is further noted that purchase request may be generated through mediums other than a web interface 308, such as through phone calls and facsimile transmissions, for ultimate injection into the purchasing management system 100, according to the present invention.

In short, the manner in which a purchase request is generated for injection into the purchasing management system 100 is not significant as long as a purchase request is generated in some form that may be processed by the purchasing management system 100. Once in the purchasing management system 100, the purchase request may be efficiently managed, according

to the present invention. This is so, whether the product or service desired is found within the non-network enabled markets 305 or within network enabled markets 315.

FIG.4 is a block diagram for purchase request process flow 400 including alternative transaction paths, according to the present invention. The process flow 400 begins with block 402 where a purchase request is received for a product and service. Moving on to block 404, the purchase request is processed and a positive or negative approval response is completed. As discussed above, it is contemplated that the purchase request in block 402 may take a wide variety of forms, from a specific request for a product or service at a particular price from a particular vendor to a general request for an amount of money to be used to meet some specified need. In turn, the approval processing in block 404 considers these widely varying requests and provides a response that may also vary widely in specificity. For example, the approval may range from approval for a specific product or service from a specific vendor for a specific price to approval for an allocation of an amount of money for the purchase of a product or service to meet an approved need. In block 406, the buyer will perform the buyer's typical role selecting and performing the purchasing act, unless this step is bypassed through some type of pre-selection or automatic product selection. In other words, to the extent not already specified in the purchase request by the requestor or requesting user, the buyer will determine the specifics of the purchase, for example, the vendor, particular products or SKU's, etc.

After the buyer role has been exercised and a particular product are service has been identified for purchase related to an approved purchase request, decision block 408 is used to determine how the transaction is processed to completion. In block 408, a decision is made

whether the dynamic payment card is desired to be utilized. If the dynamic payment card is not to be utilized, flow passes to block 418 where an order is placed with the vendor, for example, through a printed document, facsimile transmission, phone call, on-line access, in person or through any other desired medium. In block 420, the product or service is delivered. In block 422, an invoice may be directly sent by the vendor, and in somewhat in parallel, in block 428, the user exercises the role of receiver of the products and services, acting to very receipt of the goods or services. In block 424, the user exercises the accounting role of matching and correlating the various aspects of the purchase, for example, the received products and services, the purchase request, the approval conditions, the purchase order, and the invoice from the vendor. From this point, in block 426, any necessary payment may be finalized or made to the vendor. It is again noted, that these process flow blocks are representative and are not intended to designate an absolute process flow. Variations may be implemented, as desired.

Referring now back to block 408, if the dynamic payment cards is to be utilized, flow passes to block 410. By utilizing the dynamic payment card of the present invention, companies may manage a broad range of transactions where purchasing management is desired. As discussed above, the dynamic payment card represents a unique payment identifier that can be associated with a set of dynamic approval parameters for each approved purchase request. These approval parameters may be, for example, approved vendors, dollar amounts, product types, numbers of items, date or time by which the purchase must be made, or any other desired approval criteria. Thus, when a transaction is initiated by an individual possessing the dynamic payment card, approval of the transaction may be controlled by a clearing house based upon the approval information associated with the card and the particular purchase request for which the

transaction is being initiated. In this way, a company or entity may manage purchases, for example, through network accessible rules and processes, regardless of what product or service is being requested in the purchase request and regardless of the market from which product or service is to be purchased.

In block 410, the approval parameters are injected into the card processing system and associated with the appropriate dynamic payment card. In block 412, the user of the dynamic payment card places an order with the supplying vendor, for example, through a printed document, facsimile transmission, phone call, on-line access, in person or through any other desired medium. The dynamic payment card is utilized in this purchase as the charging vehicle. In block 414, the product or service is delivered, although it is noted that this delivery may take at any place in the process flow, and does not need to occur at the time of purchase. In block 416, the vendor charges the dynamic payment card. If the charge is approved after correlation and review of the transaction details with the appropriate set of dynamic approval parameters, flow proceeds along two somewhat parallel paths to blocks 432 and 430. If the transaction is not approved based upon the approval information associated with the dynamic payment card for that purchase, the process terminates in block 417 based upon the indication of no approval.

If the process continues, in block 428, a user exercises the role of receiver of the products and services, acting to very receipt of the goods or services. Somewhat in parallel, in block 432, card reporting provides information concerning various transaction details, for example, the vendor name, vendor type, amount charged or other transaction details. In block 434, the credit balance may be decremented. In block 436, a monthly statement or invoice is provided to the

customer through reporting or business document exchange (BDX) provided general ledger (GL) distribution. It is noted that this monthly statement may be generated by the purchasing management system 100, so that a company or entity may have all of its purchases designated on a consolidated statement. In block 430, the user exercises the accounting role of matching and correlating the various aspects of the purchase, for example, the received products and services, the purchase request, the approval conditions, the purchase order, and the invoice from the vendor. From this point, any necessary payment may also be finalized or made to the vendor. It is again noted, that these process flow blocks are representative and are not intended to designate an absolute process flow. Variations may be implemented, as desired.

Further modifications and alternative embodiments of this invention will be apparent to those skilled in the art in view of this description. It will be recognized, therefore, that the present invention is not limited by these example arrangements. Accordingly, this description is to be construed as illustrative only and is for the purpose of teaching those skilled in the art the manner of carrying out the invention. It is to be understood that the forms of the invention herein shown and described are to be taken as the presently preferred embodiments. Various changes may be made in the shape, size and arrangement of parts. For example, equivalent elements may be substituted for those illustrated and described herein, and certain features of the invention may be utilized independently of the use of other features, all as would be apparent to one skilled in the art after having the benefit of this description of the invention.